AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method in connection with an inverter that comprises several power semiconductor components and a control apparatus to control them, the control apparatus being arranged to control the power semiconductor components in response to a control quantity to generate an output voltage, the method comprising the step of:

determining the temperature or an electric quantity affecting the ~~temperate~~ temperature of one or more power semiconductor components, ~~wherein the method also comprising the steps of~~

determining the change of the temperature or an electric quantity affecting the temperature of one or more power semiconductor components, and

controlling with the control apparatus the power semiconductor components in response to both a control quantity to generate an output voltage and the change rate of the temperature or a quantity affecting the temperature of the power semiconductor components to reduce temperature variation by slowing down a temperature increase rate as the temperature or the electric quantity affecting the temperature increases and by slowing down a temperature decrease rate as the temperature or the electric quantity affecting the temperature decreases ~~in such a manner that, as the temperature or quantity affecting the temperature increases, the~~

~~temperature increase rate is slowed down and, as the temperature or quantity affecting the temperature decreases, the temperature decrease rate is slowed down~~.

2. (Previously Presented) A method as claimed in claim 1, wherein the inverter also comprises a cooling element arranged to cool the power semiconductor components, wherein the cooling element is a controllable cooling element, and the method also comprises the step of

controlling the cooling element of the power semiconductor components of the inverter in response to the change rate of the temperature or a quantity affecting the temperature of the power semiconductor components to reduce the temperature change and the change rate.

3. (Previously Presented) A method as claimed in claim 1, wherein the determination of the temperature of a power semiconductor component comprises the steps of

determining the size of the current running through the component and the size of the voltage over the component,

determining the number of switchings in the power semiconductor component, and

calculating the temperature of the power semiconductor component on the basis of the determined size of the current and voltage and the number of switchings by using a temperature model made in advance of the power semiconductor component.

4. (Previously Presented) A method as claimed in claim 1, wherein the control of the power semiconductor components in response to the change rate of the temperature or quantity affecting the temperature of the power semiconductor components to reduce the temperature change and the change rate comprises the step of increasing the switching frequency of the power semiconductor components in response to the decrease of the temperature or quantity affecting the temperature of the power semiconductor components or decreasing the switching frequency of the power semiconductor components in response to the increase of the temperature or quantity affecting the temperature of the power semiconductor components.

5. (Previously Presented) A method as claimed in claim 1, wherein the control of the power semiconductor components in response to the change rate of the temperature or quantity affecting the temperature of the power semiconductor components to reduce the temperature change and the change rate comprises the step of increasing the reactive current level of the power semiconductor components in response to the decrease of the temperature or quantity affecting the temperature of the power semiconductor components or decreasing the reactive current level of the power semiconductor components in response to the increase of the temperature or quantity affecting the temperature of the power semiconductor components.

6. (Previously Presented) A method as claimed in claim 2, wherein the cooling element is a motor-operated fan, wherein

the control of the cooling element in response to the change rate of the temperature or quantity affecting the temperature of the power semiconductor components comprises the step of increasing the rotation rate of the motor-operated fan in response to the increase of the temperature or quantity affecting the temperature of the power semiconductor components or decreasing the rotation rate of the motor-operated fan in response to the decrease of the temperature or quantity affecting the temperature of the power semiconductor components.

7. (Previously Presented) A method as claimed in claim 1, wherein the method also comprising the step of anticipating a future change in the control quantity leading to a temperature change, and taking steps to reducing the temperature change in response to the anticipation.

8. (Currently Amended) A method as claimed in claim 1, wherein the ~~quantiy~~ quantity affecting the temperature is a torque, current or voltage instruction, or a defined torque, current, or voltage of the machine.

9. (Currently Amended) An arrangement in connection with an inverter that comprises several power semiconductor components and a control apparatus arranged to control them, the control apparatus being arranged to control the power semiconductor components in response to a control quantity to generate an output voltage, the arrangement comprising:

means for determining the temperature or an electric quantity affecting the temperature of one or more power semiconductor components, ~~the arrangement also comprising~~

means for determining the temperature or an electric quantity affecting the temperature of one or more power semiconductor components, and

a control apparatus for controlling the power semiconductor components in response to both the control quantity to generate an output voltage and the temperature or a quantity affecting the temperature or the power semiconductor components to reduce temperature variation by slowing down a temperature increase rate as the temperature or the electric quantity affecting the temperature increases and by slowing down a temperature decrease rate as the temperature or the electric quantity affecting the temperature decreases ~~in such a manner that, as the temperature or quantity affecting the temperature increases, the temperature increase rate is slowed down and, as the temperature or quantity affecting the temperature decreases, the temperature decrease rate is slowed down~~.

10. (Previously Presented) An arrangement as claimed in claim 9, wherein the inverter also comprises a cooling element arranged to cool the power semiconductor components, wherein the cooling element is a controllable cooling element, and the arrangement also comprises

means for controlling the cooling element of the power semiconductor components of the inverter in response to the change rate of the temperature or a quantity affecting the temperature of the power semiconductor components to reduce the temperature change and the change rate.